

WHAT IS CLAIMED IS:

1. A sample ingredient analyzing system comprising:  
a sensor pack formed by packing in a packaging material a sensor chip having a  
5 reaction portion for reacting with a test sample; and  
an analyzing device having an opening for accepting said sensor pack containing one  
sensor chip, and retaining means for retaining the sensor chip in the sensor pack accepted  
through the opening, said analyzing device analyzing an ingredient in a test sample supplied  
to the reaction portion by detecting a change in the reaction portion.

2. A sample ingredient analyzing system according to Claim 1, wherein said  
sensor chip has engagement means for engagement with said retaining means.

3. A sample ingredient analyzing system according to Claim 1, wherein said  
retaining means penetrates said packaging material at least to reach said sensor chip.

4. A sample ingredient analyzing system according to Claim 1, wherein said  
sensor pack has a holding to be held by a user.

5. A sample ingredient analyzing system according to Claim 1, wherein said  
packaging material has positioning means for positioning the sensor chip.

6. A sample ingredient analyzing system according to Claim 1, wherein said  
analyzing device has positioning means for positioning the sensor chip when only the sensor  
25 chip is inserted through said opening.

7. A sample ingredient analyzing system according to Claim 1, wherein said  
analyzing device has retention undoing means for undoing the retention continued by said  
retaining means.

8. A sample ingredient analyzing system according to Claim 1, wherein said  
analyzing device has state changing means for changing the state of said retaining means

between a state of receding from said sensor pack and a state of retaining said sensor chip, and wherein said state changing means changes the state of said retaining means so that said retaining means is in the receding state when said sensor pack is inserted, and so that said retaining means is in the retaining state after the completion of insertion of the sensor pack.

5

9. A sample ingredient analyzing system according to Claim 8, wherein said state changing means is operated by a movable member which is moved by insertion of the sensor pack.

10. A sample ingredient analyzing system according to Claim 9, wherein said analyzing device has a power supply switch operated by the movement of said movable member.

11. A sample ingredient analyzing system according to Claim 8, wherein said analyzing device has a power supply switch capable of turning on and off the power supply to said analyzing device by being linked to the two states of said retaining means.

12. A sample ingredient analyzing system according to Claim 1, wherein said analyzing device has reaction information acquisition means for obtaining information on reaction at the reaction portion from said sensor chip, and

wherein said analyzing device positions said reaction information acquisition means on said sensor chip by retaining said sensor chip by said retaining means.

13. A sample ingredient analyzing system according to Claim 1, wherein, when said packaging material is removed from said opening while said sensor chip is retained by said retaining means, said sensor chip is taken out from said packaging material in such a manner that said sensor chip is brought into contact with said packaging material to tear said packaging material, and

wherein said packaging material has a force receiving portion provided at a position at which said sensor chip is brought into contact with said packaging material, a force applied by said sensor chip being concentrated at said force receiving portion.

14. A sample ingredient analyzing system according to Claim 13, wherein a portion of said sensor chip remote from said reaction portion is taken out first from the packaging material.

5 15. A sample ingredient analyzing system according to Claim 1, wherein said analyzing device has reaction information acquisition means for obtaining information on reaction at the reaction portion from said sensor chip, said reaction information acquisition means being provided in said retaining means.

10 16. A sample ingredient analyzing system according to Claim 3, wherein said packaging material has a penetrable portion through which said retaining means can penetrate, and a penetration stop portion which stops the penetrating action of said retaining means,

wherein said analyzing device has:

reaction information acquisition means for obtaining information on reaction at said reaction portion by being brought into contact with said sensor chip; and

state changing means for changing the state of said reaction information acquisition means between a first state of being spaced apart from said sensor pack or loosely contacting said sensor pack and a second state of contacting said sensor chip, and

15 wherein said state changing means sets said reaction information acquisition means in said first state when said retaining means penetrates said penetrable portion to retain said sensor chip, and sets said reaction information acquisition means in said second state when said packaging material is removed from said opening, and when said retaining means is retaining only said sensor chip.

20 17. A sample ingredient analyzing system according to Claim 1, wherein said sensor pack contains a desiccant.

25 18. A sample ingredient analyzing system according to Claim 17, wherein said sensor pack has a holding to be held by a user, and a desiccant accommodation portion for accommodating the desiccant is provided in said holding.

30 19. A sample ingredient analyzing system according to Claim 1, wherein a

predetermined orientation of said sensor pack with respect to the direction of insertion into the opening of said analyzing device is prescribed, and

wherein a cross-sectional shape of said sensor pack as viewed in the direction of insertion when said sensor pack has an orientation different from said predetermined orientation is different from a cross-sectional shape of said opening as viewed in the direction of insertion.

20. A sample ingredient analyzing system according to Claim 19, wherein said sensor chip has the shape of a generally flat block, and each of said sensor pack and said opening has a shape exhibiting an asymmetry on the opposite sides of the two surfaces of the sensor chip.

21. A sample ingredient analyzing system according to Claim 19, wherein said sensor chip has the shape of a generally flat block, and each of said sensor pack and said opening has a shape asymmetric as seen in opposite directions along a surface of the sensor chip.

22. A sample ingredient analyzing system according to Claim 1, wherein a predetermined orientation of said sensor chip with respect to the direction of insertion into the opening of said analyzing device is prescribed, and

wherein a portion of said sensor pack on one side in the direction of insertion along said predetermined orientation and another portion of said sensor pack on the opposite orientation side differ in shape from each other.

23. A sample ingredient analyzing system according to Claim 1, further comprising inserted state detection means for detecting an insertion state of the sensor pack having a detecting portion provided in said analyzing device and a portion to be detected provided in said sensor pack at a predetermined position.

24. A sample ingredient analyzing system according to Claim 1, wherein said analyzing device has first reaction information acquisition means for obtaining information on reaction at said reaction portion from said sensor chip when said sensor chip is inserted in the

state of having said predetermined orientation to the opening, and second reaction information acquisition means for obtaining information on reaction at said reaction portion from said sensor chip when said sensor chip is inserted in the opening in the state of having an orientation different from said predetermined orientation.

5

25. A sample ingredient analyzing system according to Claim 1, further comprising information holding means for holding information on said sensor chip, said information holding means being provided on at least one of said sensor pack and said sensor chip, and information recognition means for recognizing information held by said information holding means, information recognition means being provided in said analyzing device.

26. A sample ingredient analyzing system according to Claim 25, further comprising insertion orientation determination means for making a determination as to whether the orientation of said sensor chip with respect to the direction of insertion is correct by checking whether information from said information holding means can be recognized by said information recognition means.

27. A sample ingredient analyzing system according to Claim 1, wherein said analyzing device has opening forming means for forming an opening in the packaging material of said sensor pack.

28. A sample ingredient analyzing system according to Claim 1, wherein said analyzing device has speech generation means.

29. A sensor chip for use in a sample ingredient analyzing system having a sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device having an opening for accepting the sensor pack containing one sensor chip, and retaining means for retaining the sensor chip in the sensor pack accepted through the opening, the analyzing device analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said sensor chip comprising engagement means for engagement with the retaining means of the analyzing device.

30. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said sensor pack comprising a holding to be held by a user.

31. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said sensor pack comprising positioning means for positioning the sensor chip in the packaging material.

32. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, in which system, when the packaging material is removed from an opening of the analyzing device while the sensor chip is retained by the retaining means, the sensor chip is taken out from the packaging material in such a manner that the sensor chip is brought into contact with the packaging material to tear the packaging material, said sensor pack comprising a force receiving portion provided in the packaging material at a portion at which the sensor chip is brought into contact with the packaging material, where a force applied by the sensor chip is concentrated.

33. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said sensor pack comprising a desiccant.

34. A sensor pack according to Claim 33 having a holding to be held by a user, wherein a desiccant accommodation portion for accommodating the desiccant is provided in said holding.

5 35. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said sensor pack comprising:

10 a predetermined orientation of said sensor pack being prescribed with respect to the direction of insertion into an opening of the analyzing device; and

15 a cross-sectional shape of said sensor pack as viewed in the direction of insertion when said sensor pack has an orientation different from said predetermined orientation being different from a cross-sectional shape of the opening of the analyzing device as viewed in the direction of insertion of the sensor pack.

20 36. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said sensor pack comprising:

a portion of the sensor pack on one side in the direction of insertion and another portion of the sensor pack on the opposite side differing in shape from each other.

25 37. A sensor pack for use in a sample ingredient analyzing system having said sensor pack formed by packing in a packaging material a sensor chip having a reaction portion for reacting with a test sample, and an analyzing device for analyzing an ingredient in a test sample supplied to the reaction portion by detecting a change in the reaction portion, said analyzing device having information recognition means, said sensor pack comprising:

30 information holding means for holding information recognizable by said information recognition means.